



US008742814B2

(12) **United States Patent  
Binder**

(10) **Patent No.:** **US 8,742,814 B2**  
(45) **Date of Patent:** **Jun. 3, 2014**

(54) **SEQUENTIALLY OPERATED MODULES**

(76) Inventor: **Yehuda Binder**, Hod Hasharon (IL)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1032 days.

(21) Appl. No.: **12/712,673**

(22) Filed: **Feb. 25, 2010**

(65) **Prior Publication Data**

US 2011/0012661 A1 Jan. 20, 2011

**Related U.S. Application Data**

(60) Provisional application No. 61/225,756, filed on Jul. 15, 2009, provisional application No. 61/254,882, filed on Oct. 26, 2009, provisional application No. 61/267,595, filed on Dec. 8, 2009.

(51) **Int. Cl.**  
**H03H 11/26** (2006.01)  
**A63H 33/00** (2006.01)  
**G09B 7/00** (2006.01)

(52) **U.S. Cl.**  
USPC ..... **327/261**; 327/276; 327/284; 446/91

(58) **Field of Classification Search**  
None  
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

2,879,685	A	3/1959	Page
3,005,282	A	10/1961	Christiansen
3,034,254	A	5/1962	Godtfred
3,205,407	A	9/1965	Thompson
3,553,438	A	1/1971	Blitz et al.
3,594,689	A	7/1971	Hopt et al.
3,640,018	A	2/1972	Light
3,659,219	A	4/1972	Rueff, Jr.

3,863,931	A	2/1975	Forsyth et al.
3,877,028	A	4/1975	Thomas
3,970,805	A	7/1976	Thomas
4,021,252	A	5/1977	Banczak et al.
4,064,377	A	12/1977	Regan

(Continued)

**FOREIGN PATENT DOCUMENTS**

EP	0135633	4/1985
EP	0976430	2/2000

(Continued)

**OTHER PUBLICATIONS**

International Search Report of PCT/IL2010/000559 dated Nov. 16, 2010.

(Continued)

*Primary Examiner* — Lincoln Donovan

*Assistant Examiner* — Terry L Englund

(74) *Attorney, Agent, or Firm* — Browdy and Neimark, PLLC

(57) **ABSTRACT**

Method, modules and a system formed by connecting the modules for controlling payloads. An activation signal is propagated in the system from one module to the modules connected to it. Upon receiving an activation signal, the module (after a pre-set or random delay) activates a payload associated with it, and transmits the activation signal (after another pre-set or random delay) to one or more modules connected to it. The system is initiated by a master module including a user activated switch producing the activation signal. The activation signal can be propagated in the system in one direction from the master to the last module, or carried bi-directionally allowing two way propagation, using a module which revert the direction of the activation signal propagation direction. A module may be individually powered by an internal power source such as a battery, or connected to an external power source such as AC power.

**94 Claims, 156 Drawing Sheets**

